4635

Critical Analysis Team Report

CAT Report #32

12 September 2002

The Critical Analysis Team (CAT) attended the Silo 3 Technical Roundtable on September 10, 2002. In its review of the no treatment option for Silo 3, the CAT finds the following:

- The CAT has reviewed existing design documentation and is satisfied that the following contamination control issues are receiving adequate attention: (1) air flow from clean areas (outside) to more contaminated areas (process area); (2) HEPA filters and prefilters with DOP testing capabilities and bag-out features; (3) painted or lined and sloped floors with sumps; (4) provisions for breathing air systems; (5) air monitors and radiation alarms; and (6) clothing donning and doffing stations.

- The following three additional activities should be pursued to ensure the project is capable of controlling dusting: (1) The size of the waste filling area should be minimized to prevent spreading dust and to facilitate cleanup of any spills; (2) The packaging and handling system must be designed (currently planned for vendor design this winter) to assure safe and reliable filling of containers. While the CAT believes such a system can be designed, it has not yet seen any such design; and, (3) The ventilation system should be designed to assist in controlling dusting problems (e.g. air flow from top to bottom).

- Based on an item-by-item discussion (HVAC, specs, drawings, studies, documentation, procurement packages, ALARA, safety analyses), Jacobs design is apparently 90% complete. However, because of the project's procurement approach (vendors will design and build major systems including the Vacuum Wand Management System, the excavator, and the packaging and handling system) the overall design is not 90% complete.

- The CAT is pleased the project is pursuing mock-up and testing of individual Silo 3 systems as well as integrated system tests.

- The re-enforcement of Silo 4 appears sufficient to provide structural stability to the silo during cutting.

- As the CAT has observed on the other silos projects in the past, the Silo 3 project is facing significant management challenges over the next year. In addition to general construction management, construction bid preparation, bid awards, and construction activities of several subcontractors, the project will have to manage the EM-50 testing efforts, and multiple procurements for design, build, and test contracts. In

order to successfully manage these tasks, the Silo 3 project will have to be provided with adequate resources and personnel.

- It is unlikely that cost differences between the treatment and no-treatment options can be estimated reliably at this time. As with most DOE projects, cost will largely be driven by the project's ability to implement its remedy on schedule.

- In implementing the no-treatment option, a clear and reliable disposal path is critical. Currently, it appears that the Nevada Test Site is able to receive untreated waste. If this is the case, NTS should be considered the primary waste disposal site with Envirocare as a secondary option pending resolution of its Silo 3 waste acceptance issues.

- DOE and FF are considering a non-treatment option for Silo 3. Assuming a proper design, the differences between non-treatment and treatment are likely to be minor from cost, schedule, technical, operability and maintainability standpoints. The primary tradeoff between the two options is as follows:

  1. Treatment requires more unit operations and greater shipping and transportation costs.
  2. Non-treatment carries risks of contaminating the fill room with dust and thereby increasing facility downtime and decreasing facility operability.

  One's subjective judgement between these two tradeoffs is a primary factor in determining which option is most desirable.